

Livestock Flies
SW Research
JUL 30 1956

July
June 20-26, 1956

Screw-worm

*Latest Depe thought
you'd be interested*

9 Pans Standard		1 Pan 20% Plasma
Total	93,600 cc.	5,900 cc.
Avg. per pan	10,400 cc.	--
Pounds meat per pan	9.16	5.20
No. pupae per pan	4,620	4,775
Avg. No. pupae per pound meat	<u>504</u>	<u>918</u>
Avg. weight 50 larvae	83.4	79.4

Note these figures

Plasma used in this test was human plasma containing 5% dextrose discarded from a local bank. Previous indications are that fresh bovine plasma from citrated blood is superior to human plasma of this type. Further tests are being conducted on both a qualitative and quantitative basis, using 10%, 20%, and 40% beef plasma compared with 20% human plasma, 20% red blood cells (lower fractions obtained in centrifuging), and the standard 20% whole blood. Availability, of course, has been the only factor in using human plasma in the preliminary tests.

If further testing confirms the above results, not only will a substantial saving in meat occur but considerable time will be saved in mixing and adding medium to the larval pans. In fact, rearing the same number of larvae per pan, the use of plasma may well eliminate the "round-the-clock" work necessary for the recent Bithlo production.

It may be wise to begin investigation of equipment available for large-scale blood separation.

Test in progress now indicates that big tray 2' x 8' x 2" heated from underneath (in this case light bulbs) more efficient than standard trays. For 100,000 plus larvae following amounts standard medium used:

First 2 days 264 sq. inches 1 1/2 inch deep
3rd day 536 " " " " "
4 & 5 days 2,304 sq. inches 1 1/2 inch deep

Only minimum amount of care--no night work and no general heat in room other than under medium pan.

2 W. 1956
JUL 30 1956

20-25, 1956

Robert R. Wright
Special Agent

Brown-Worm

1 Pan 202 Plasma

2 Pans Standard

2,900 cc.
5.20
1,775
218
79.4

Total 93,600 cc.
Avg. per pan 10,500 cc.
Pounds meat per pan 9.16
No. pupae per pan 1,630
Avg. No. pupae per pound meat 504
Avg. weight 50 larvae 83.4

Plasma used in this test was human plasma containing 5% dextrose dissolved from a local bank. Previous indications are that fresh bovine plasma from citrated blood is superior to human plasma of this type. Further tests are being conducted on both a qualitative and quantitative basis, using 10% 20% and 30% beef plasma compared with 20% human plasma, 20% red blood cells (lower fractions obtained in centrifuging), and the standard 30% whole blood. Availability, of course, has been the only factor in using human plasma in the preliminary tests.

If further testing confirms the above results, not only will a substantial saving in meat occur but considerable time will be saved in mixing and adding medium to the larval pans. In fact, rearing the same number of larvae per pan, the use of plasma may well eliminate the "round-the-clock" work necessary for the recent batch production.

It may be wise to begin investigation of equipment available for large-scale blood separation.

Test in progress now indicates that big trays 8' x 8' x 2" heated from underneath (in this case light bulbs) more efficient than standard trays. For 100,000 plus larvae following amounts standard medium used:

First 2 days 204 sq. inches 1 1/2 inch deep
3rd day 226 " " " " " "
4 & 5 days 2,304 sq. inches 1 1/2 inch deep

Only minimum amount of care--no night work and no general heat in room other than water medium pan.

July
~~June~~ 20-26, 1956

Screw-worm

9 Pans Standard

Total 93,600 cc.
Avg. per pan 10,400 cc.
Pounds meat per pan 9.16
No. pupae per pan 4,620
Avg. No. pupae per pound meat 504
Avg. weight 50 larvae 83.4

1 Pan 20% Plasma

5,900 cc.
—
5.20
4,775
918
79.4

Note these figures

Plasma used in this test was human plasma containing 5% dextrose discarded from a local bank. Previous indications are that fresh bovine plasma from citrated blood is superior to human plasma of this type. Further tests are being conducted on both a qualitative and quantitative basis, using 10%, 20%, and 40% beef plasma compared with 20% human plasma, 20% red blood cells (lower fractions obtained in centrifuging), and the standard 20% whole blood. Availability, of course, has been the only factor in using human plasma in the preliminary tests.

If further testing confirms the above results, not only will a substantial saving in meat occur but considerable time will be saved in mixing and adding medium to the larval pans. In fact, rearing the same number of larvae per pan, the use of plasma may well eliminate the "round-the-clock" work necessary for the recent Bithlo production.

It may be wise to begin investigation of equipment available for large-scale blood separation.

Test in progress now indicates that big tray 2' x 8' x 2" heated from underneath (in this case light bulbs) more efficient than standard trays. For 100,000 plus larvae following amounts standard medium used:

First 2 days 264 sq. inches 1 1/2 inch deep
3rd day 536 " " " " "
4 & 5 days 2,304 sq. inches 1 1/2 inch deep

Only minimum amount of care--no night work and no general heat in room other than under medium pan.

1955-56, 1956

Standard

1 Jan 1956

2 Jan 1956

2,300 cc.
2.50
1,715
338
39.4

23,400 cc.
175. per gm 10,100 cc.
10,100 cc. 2.15
No. pupae per gm 1,450
Avg. no. pupae per pound mass 304
Avg. weight 50 larvae 83.4

Plasma used in this test was human plasma containing 2% dextrose dissolved from a local bank. Previous indications are that fresh bovine plasma from stored blood is superior to human plasma of this type. Further tests are being conducted on both a qualitative and quantitative basis, using 10%, 20%, and 40% fetal plasma compared with 10% human plasma. 20% red blood cells (lower fractions obtained in centrifuging) and the standard 20% whole blood. Availability, of course, has been the only factor in using human plasma in the preliminary tests.

If further testing confirms the above results, not only will a substantial saving in mass occur but considerable time will be saved in making and adding medium to the larval pans. In fact, testing the same number of larvae per pan, the use of plasma may well eliminate the "round-the-clock" work necessary for the present blood separation.

It may be wise to begin investigation of equipment available for large-scale blood separation.

Test in progress now indicates that 1/2" x 6" x 2" plates from underneath (in this case right half) were efficient than standard trays. For 500,000 pin larvae following standard method used:

7 min. each

1/2" x 6" x 2" 1 1/2 min. deep
1/2" x 6" x 2" 1 1/2 min. deep
1/2" x 6" x 2" 1 1/2 min. deep
1/2" x 6" x 2" 1 1/2 min. deep

Only minimum amount of care-no right work and no general time for from other than water method test.
2304 sq. in for 4+5 days
536 sq. in for 3rd day
244 sq. in for 2nd day